

of the knee, musculoskeletal pain and headache have been published however no reviews have incorporated the latest trial evidence from the recent large scale high quality RCTs to generate EQ-5D scores. **METHODS:** An individual patient level data (IPD) based Mixed Treatment Comparison (MTC) was undertaken using a database of 28 recent, high quality RCTs containing observations for over 18,000 patients. The analysis evaluated the effectiveness of acupuncture in terms of continuous outcomes, for each of the three conditions over a three month time horizon, mapping generic and disease-specific measures to generate EQ-5D scores and using published mapping algorithms unless none were available. **RESULTS:** Acupuncture, net of sham, is more effective in that it generates greater EQ-5D scores compared to usual care in the management of chronic, non-cancer pain in primary care. Using a random effects IPD MTC, the change in EQ-5D scores from baseline to 3 months was mean 0.0419 (95% credibility interval 0.0066 to 0.0765) for acupuncture net of sham and 0.0573 (95% credibility interval 0.0139 to 0.1006) for acupuncture vs usual care. **CONCLUSIONS:** Based on EQ-5D scores, this analysis suggests that acupuncture, is the most effective option. The analyses synthesise effectiveness evidence using MTC of IPD whilst controlling for sham effect. This analysis is an intermediate step to inform a full cost-effectiveness analysis to support decision-making in the UK.

PMS14

APPLICATION OF A DATA VISUALIZATION TOOL: TREATMENT PATTERNS OF VETERAN PATIENTS WITH ANKYLOSING SPONDYLITIS

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OBJECTIVES: As outcomes research methodologies advance, they should increasingly allow access by different disciplines as clinicians, epidemiologists, economists, and statisticians interact frequently. A data visualization tool can present complex patterns effectively to a diverse audience. The objective of this study was to present treatment patterns among Veterans Health Administration (VHA) patients diagnosed with ankylosing spondylitis (AS) using advanced data visualization techniques. **METHODS:** Using the VHA Medical SAS[®] dataset, adult patients with at least one AS diagnosis (ICD-9-CM: 720.0) were selected. Prescriptions for anti-tumor necrosis factor (anti-TNF) and non-TNF agents were identified. For 2 years after the date of the first prescription (initiation date), drug switches and discontinuation were examined. Using a processing language, a data visualization tool was developed to demonstrate changes in treatment patterns after the first and second treatment switches. **RESULTS:** A total of 1,021 AS patients initiated therapy with TNF, of which 13.52% switched to another TNF, 0.20% switched to a non-TNF, 49.56% discontinued therapy and 36.73% continued their initial therapy. Among patients who switched to another TNF, 60.87% remained on the switched therapy, while 31.16% discontinued therapy, 7.97% switched to another TNF, and no patients switched to a non-TNF. 81.82% of patients who made a second switch to a TNF medication remained on this TNF, while 9.09% discontinued treatment. A total of 84 AS patients initiated therapy with a non-TNF. 4.76% of these patients switched to a TNF, 1.19% switched to another non-TNF, 93.61% discontinued therapy and no patients continued treatment. Of those patients whose first switch was to a TNF, 50% continued therapy while the remaining 50% discontinued. There were no second switches. **CONCLUSIONS:** When analyzing several years of data including treatment (dis)continuation and switches, treatment patterns can be difficult to capture. Data visualization tools help present complicated flows effectively for a diverse research audience.

PMS15

IMPROVEMENT IN DISEASE ACTIVITY SCORES ASSOCIATED WITH EARLY VERSUS LATE INITIATION OF BIOLOGIC THERAPY IN PATIENTS WITH RHEUMATOID ARTHRITIS: RESULTS OF A EUROPEAN CHART REVIEW STUDY

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OBJECTIVES: Recent research has suggested that patients may have a “window of opportunity” to reverse immune dysregulation associated with RA onset through aggressive early treatment. This study aimed to evaluate the outcomes associated with early versus late biologic treatment in RA. **METHODS:** Adults (≥18 years) with confirmed RA diagnosis between January 2008 and December 2010, who received biologic therapy for ≥3 months and had ≥12 months follow-up were included in this retrospective, observational medical chart review study in Spain, Germany, and United Kingdom. Physicians abstracted outcomes including 28-joint disease activity scores (DAS28) alongside treatment received. Patients were classified as receiving early biologic treatment if started within 1 year of RA diagnosis. Outcomes included DAS28 reduction of ≥1.2 from scores at biologic start and remission (DAS28<2.6). Time to reaching these outcomes was evaluated using Kaplan-Meier survival curves and log rank tests. **RESULTS:** Of 328 patients included, 310 (178 early; 132 late) had DAS28 measurements and were demographically similar between early vs. late treatment (overall: mean age 47.9 at diagnosis, 71.0% female, 96.1% white). Overall, 73.5% of patients had a DAS28 decrease ≥1.2 points and 44.5% achieved remission. More early versus late biologic treated patients had a DAS28 decrease ≥1.2 (79.2% vs 65.9%, p=0.009) but there was no significant difference in the time to this decrease. More early vs. late biologic treated patients achieved remission (51.1% vs 35.6%, p=0.009), with a significant difference in survival curves when indexing on time since RA diagnosis (p<0.001) and biologic start (p=0.024). There were no significant differences outcomes across countries. **CONCLUSIONS:** This chart review contributes to the growing literature surrounding outcomes associated with early biologic treatment. Within this study, RA patients who were treated early were more likely to achieve clinically significant improvement and to reach remission earlier in their RA disease trajectory than those treated later.

PMS16

UPTAKE OF DENOSUMAB IN THE TREATMENT OF OSTEOPOROSIS IN THE CZECH REPUBLIC

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OBJECTIVES: The objective was to analyze current trends in consumption as well as prescription practice pattern of the new anti-RANKL monoclonal antibody denosumab in the treatment of osteoporosis since its introduction onto the market in the Czech Republic in 2011. **METHODS:** The prescription-based database of the General Health Insurance Company (VZP) of the CR that covers approximately 62% of the Czech population was used as the data source. An insured person with a recorded prescription for denosumab in the period of interest was defined as a patient. The obtained epidemiological and costing data were also confronted with the prediction in the budget impact analysis in the public reimbursement dossier accessible in the State Institute for Drug Control files. **RESULTS:** A total of 3119 (158) patients (men) treated with denosumab were identified in the first year, i.e. between August 2011 and July 2012. The median age of patients was 73 years. Of the patients prescribed denosumab in the first half-year, 84% received the second dose within the observed period of one year, of which 85% within the authorized period of 6 months (+/-1 month). This new drug was most often prescribed by physicians trained in internal medicine (47%) and rheumatology (30%). The cumulative costs for VZP of the drug were CZK 27.3 mil (EUR 1.1 mil) in the first year. **CONCLUSIONS:** The uptake of denosumab has been rapid and agrees with the predictions presented by the manufacturer before the launch of the drug. This preliminary data also suggest that both the prescribing doctors and the patients filling the prescriptions follow the dosing schedule.

PMS17

THE USE OF BIOLOGIC DRUGS FOR THE TREATMENT OF RHEUMATOID ARTHRITIS IN ITALY

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OBJECTIVES: To describe the clinical profile of patients with rheumatoid arthritis (RA) treated with biologic agents within the former Italian centers “Antares” where autoimmune diseases are treated. **METHODS:** This study analyzed data from patient diaries (PDS), which involved 70 rheumatologists that are regular prescribers of biological treatments for rheumatoid arthritis and were recruited by telephone. The patient diaries were completed via web. **RESULTS:** Study population consisted of 206 (45.9%) patients with RA, 160 (35.6%) with psoriatic arthritis, 61 (13.6%) with ankylosing spondylitis, 14 (3.1%) with juvenile idiopathic arthritis and 8 (1.8%) with early RA. Female gender prevailed, while the most numerous age group was the one that ranged from 50 to 60 years. The disease was mostly diagnosed before 50 years old and, despite in the group of patients treated with biologic drugs for more than 3 months the percentage of subjects with a value of HAQ less than 1 is higher when compared with those of patients whose treatment has begun more recently, the proportion of patients with a value of HAQ between 2 and 3 is still 40.0%. The same, half of the subjects treated for more than 3 months still have a moderate or high disease activity (DAS28 ≥3.2). **CONCLUSIONS:** The study sample was in line with the literature concluding that it is representative of the Italian context. The fact that there is a proportion of patients treated with biological therapy for more than three months, as well as an important number of patients who have been treated with more than one biologic drugs, and that have a perception of quality of life rather low and / or a disease activity state rather active, leads to conclude that there is still a type of patient for which new therapeutic options should be evaluated.

PMS18

ESTIMATED OSTEOPOROTIC POPULATION AND THE RELATED MEDICATION CONSUMPTION IN MUNICIPALITY LEVEL – DISCREPANCIES OBSERVED THROUGH DATA VISUALIZATION APPROACH

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OBJECTIVES: Osteoporosis is a common health problem among elderly population. Patients with osteoporosis are exposed to low-energy fractures. The prevalence of the disease varies significantly throughout the country due to the strong correlation with demographic factors. National guidelines recommend secondary prevention for all osteoporosis patients suffering from low-energy fractures. The aim of treatment is to prevent further fractures. In order to effectively allocate the resources needed for osteoporosis treatment, it is essential to know the number of patients and treatment practices in local level. **METHODS:** Local registry data was used to estimate the total population with low-energy fractures, as well as to recognize the differences in treatment of osteoporosis in each hospital district (n=21) and municipality (n=320). Data on hip fractures from year 2009 was extrapolated to year 2012 using demographic data. The overall prevalence of low-energy fractures was estimated through a distribution of different fracture types available from literature. A map-based application was built (Tableau 8) to visualize the differences in the prevalence and treatment of osteoporosis across Finland. The model enables comparison between municipalities or hospital districts. **RESULTS:** The estimated number of osteoporotic fractures was 1733, in a hospital district with 250,000 inhabitants (Northern-Savo). The estimated prevalence rates in different municipalities within the hospital district varied between 0.52–1.7/100 inhabitants. Simultaneously, basic reimbursement for medical treatment (ATC:M05B) was paid for 1.2/100 inhabitants - the range among elderly population (>65y) was 3.21–6.56/100 inhabitants. **CONCLUSIONS:** There are significant local differences in the prevalence of osteoporosis as well as in its treatment. The population demographics do not explain the observed differences in the consumption of osteoporosis medication between different municipalities. The developed map-based application gives multiple possibilities to analyze these issues through data visualization. With this approach the interventions may be targeted to areas needing it the most.